

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number
WO 2005/091375 A1

(51) International Patent Classification⁷: **H01L 29/786**,
29/423, 29/49, 21/288, 21/336, 21/8234, 21/8238, 27/088,
27/092, G02F 1/13, 1/1368, G09F 9/00

LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).

(21) International Application Number:
PCT/JP2005/005298

(22) International Filing Date: 16 March 2005 (16.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004-081493 19 March 2004 (19.03.2004) JP

(71) Applicant (for all designated States except US): SEMI-
CONDUCTOR ENERGY LABORATORY CO., LTD.
[JP/JP]; 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MAEKAWA, Shinji
[JP/JP]; c/o SEMICONDUCTOR ENERGY LABORA-
TORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa,
2430036 (JP). SHIROGUCHI, Hiroko [JP/JP]; c/o
SEMICONDUCTOR ENERGY LABORATORY CO.,
LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).
FUJII, Gen [JP/JP]; c/o SEMICONDUCTOR ENERGY

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

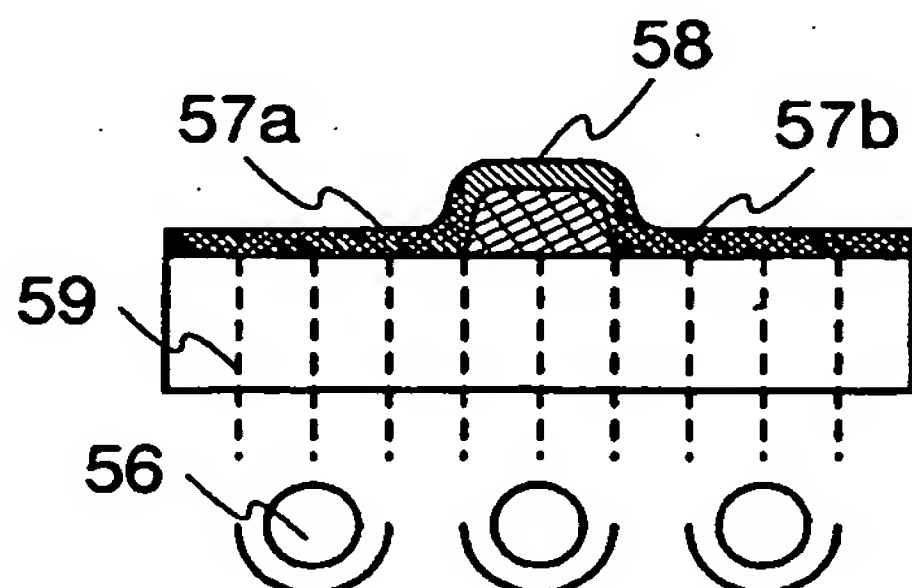
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR FORMING PATTERN, THIN FILM TRANSISTOR, DISPLAY DEVICE AND METHOD FOR MAN-
UFACTURING THE SAME, AND TELEVISION DEVICE



(57) Abstract: A method for forming a pattern according to the invention
comprises the steps of: forming a mask over a substrate having light-transmit-
ting properties; forming a first region having a substance including a light-ab-
sorbing material over the substrate and the mask; forming a second region by
irradiating the substance with light having a wavelength which is absorbable
by the light-absorbing material through the substrate to modify a part of the
substance surface; and forming a pattern by discharging a compound includ-
ing a pattern forming material to the second region.

WO 2005/091375 A1